

AMENDMENTS TO THE DRAWINGS

The attached Replacement Sheets of the Drawings includes changes to Figures 1, 4, 5A, and 5B. Replacement Sheet 1 includes Figure 1 and replaces previously entered Sheet 1. In Figure 1, previously omitted elements 200, 500, and 520 have been added. Replacement Sheet 3 includes Figure 4 and replaces previously entered Sheet 3. In Figure 4, previously omitted o-ring seals have been added as depicted in Figures 1 and 2. Replacement Sheet 4 includes Figures 5A and 5B and replaces previously entered Sheet 4. In Figures 5A-5B, previously omitted o-ring seals have been added as depicted in Figures 1 and 2.

Attachment: Replacement Sheets
Annotated Sheets (showing amendments)

REMARKS

This is intended as a full and complete response to the Office Action dated May 25, 2006, having a shortened statutory period for response set to expire on August 25, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-4, 7-8, 11-13, 15, and 21-30 remain pending in the application upon entry of this response. Claims 1-4, 7-8, 11-13, 15, and 21-30 stand rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 7 and 24 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *Jallepally et al.*, U.S. Pub. No. 2003-0106490, herein *Jallepally*. The Examiner asserts that each of the claimed elements for claims 7 and 24 are described by *Jallepally*. The Applicant respectfully traverses the rejection.

The Applicant and the Examiner discussed this rejection during a telephonic Examiner's Interview on August 24, 2006. The Applicant agreed with the Examiner that several figures, namely Figures 1, 4, 5A, and 5B, should be, and has been, amended in order to clarify the drawings. Thereafter, the Applicant pointed out to the Examiner multiple novel and non-obvious claimed elements by considering the claims in view of the figures. The Examiner agreed with the Applicant that claims 7 and 24 are novel in view of *Jallepally*.

Therefore, *Jallepally* does not teach, show, or suggest an apparatus for performing multiple deposition processes, comprising a chamber body, a lid assembly attached to the chamber body, a first gas delivery sub-assembly coupled to the lid assembly and configured for a cyclical layer deposition process, comprising a gas conduit in fluid communication with the chamber body positioned on and extending through the lid assembly, at least two flow paths in fluid communication with the gas conduit, wherein each flow path is coupled to one or more high speed actuating valves for enabling the cyclical layer deposition process, and a second gas delivery sub-assembly coupled to the lid assembly and configured for a chemical vapor deposition process, comprising an annular mixing channel concentrically disposed about the gas

conduit and in fluid communication with the gas conduit via one or more passageways, at least one nozzle connected to each of the one or more passageways and positioned to eject a gas into the gas conduit, and a first gas inlet positioned on an inner wall of the annular mixing channel to form a circular gas flow pattern for the gas within the annular mixing channel, as recited in claim 7.

Also, *Jallepally* does not teach, show, or suggest an apparatus for performing multiple deposition processes, comprising a substrate support having a substrate receiving surface and contained within a chamber body, a lid assembly attached to the chamber body, a process gas channel contained within a gas conduit positioned on and extending through the lid assembly and having an expanding channel in fluid communication with the substrate support, a first gas delivery sub-assembly coupled to the lid assembly and configured for a cyclical layer deposition process, comprising a first gas inlet and a second gas inlet positioned on the gas conduit to form a circular gas flow pattern within the process gas channel, and a first high speed actuating valve coupled to the first gas inlet, a second high speed actuating valve coupled to the second gas inlet and the first and second high speed actuating valves are configured to enable sequential pulses of gases with a pulse time of about 1 second or less during the cyclical layer deposition process, and a second gas delivery sub-assembly coupled to the lid assembly and configured for a chemical vapor deposition process, comprising an annular mixing channel in fluid communication with the substrate support and adapted to deliver a continuous flow of one or more compounds into the process gas channel during the chemical vapor deposition process, as recited in claim 24.

Withdrawal of the rejection is respectfully requested.

Claims 1-4, 8, 11-13, 15, 21-23, and 25-30 stand rejected under U.S.C. § 103(a) as being obvious over *Jallepally*, in view of *Murakami et al.*, US 5,728,223.

Jallepally has a filing date of August 7, 2002, and claims priority to U.S. Ser. No. 60/337,076, with a filing date of December 6, 2001. The present application has a filing date of November 13, 2003, and claims priority to U.S. Ser. No. 60/426,134, with a filing date of November 14, 2002. Therefore, *Jallepally* is disqualified as prior art under 35 U.S.C. § 103(c), since *Jallepally* may only be used as a prior art reference under § 102(e) and *Jallepally* and the current application were both commonly owned by, or

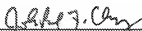
subject to an obligation of assignment to Applied Materials, Inc., of Santa Clara, California at the time of the invention. *Jallepally*, now U.S. Pat. No. 6,773,507, is listed on the attached Statement of Common Ownership.

Withdrawal of the rejection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the claimed invention.

Having addressed all issues set out in the Office Action, the Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



John-Paul F. Cherry

Registration No. 57,323

PATTERSON & SHERIDAN, L.L.P.

3040 Post Oak Blvd., Suite 1500

Houston, TX 77056

Telephone: (713) 623-4844

Facsimile: (713) 623-4846

Agent for the Applicant